

Given the measure of an arc, find the radian measure of its central angle in a circle whose radius is 10cm.

27. 12 cm

28. 45 cm

Find the value of the six trig functions of an angle in standard position if the given point lies on its terminal side.

29.  $(-\sqrt{3}, -1)$

30.  $(7, 24)$

31.  $(-8, 15)$

32.  $(5, 0)$

Suppose  $\theta$  is an angle in standard position whose terminal side lies in the given quadrant. Find the value of the remaining five trig functions of  $\theta$ .

33.  $\sin \theta = -\frac{3}{5}$ , quadrant III

34.  $\cos \theta = -\frac{1}{2}$ , quadrant II

35.  $\cot \theta = \frac{1}{2}$ , quadrant I

36.  $\cos \theta = \frac{\sqrt{3}}{3}$ , quadrant IV

Find the exact value of each trigonometric function.

1)  $\cot -30^\circ = -\frac{\sqrt{3}}{3}$

2)  $\sin 240^\circ = -\frac{\sqrt{3}}{2}$

3)  $\sec 135^\circ = -\sqrt{2}$

4)  $\cos 135^\circ = -\frac{\sqrt{2}}{2}$

5)  $\sec \frac{4\pi}{3} = -2$

6)  $\sec \frac{2\pi}{3} = -2$

7)  $\sec 60^\circ = 2$

8)  $\tan -\frac{5\pi}{4} = -1$

9)  $\tan 120^\circ = \sqrt{3}$

10)  $\cos -270^\circ = 0$

11) Convert the following to radians. Round to 3 decimal places.

$262^\circ 43' 48''$

$262.73^\circ$